

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A method for allocating computer system
2 resources between concurrently executing workloads, comprising:
3 establishing a first resource pool that specifies requirements for each of a
4 plurality of different computer system resources, wherein the plurality of different
5 computer system resources are components of a single computer system, wherein
6 the computer system resources include central processing units and at least one of
7 memory, swap space, network interfaces, and scheduling classes, and wherein
8 establishing the first resource pool involves establishing minimum size and
9 maximum size requirements for a given resource that can be assigned to the first
10 resource pool;
11 allocating the plurality of different computer system resources to one or
12 more resource pools, including the first resource pool, to create a resource
13 allocation, wherein requirements of the first resource pool are satisfied, wherein
14 prior to allocating the plurality of different computer system resources, the method
15 further comprises:
16 verifying that collective requirements of the one or more
17 resource pools can be satisfied, and
18 if the collective requirements cannot be satisfied, signaling
19 an error condition; and
20 wherein resources allocated to the first resource pool can change over
21 time;

22 binding a first process to the first resource pool, so that the first process
23 has access to the plurality of different computer system resources allocated to the
24 first resource pool; and
25 storing a representation of the resource allocation to non-volatile storage
26 so that the resource allocation can be reused after a machine failure.

1 2. (Original) The method of claim 1, wherein allocating the plurality of
2 different computer system resources to one or more resource pools involves:
3 partitioning each of the plurality of different computer system resources
4 into one or more partitions, wherein a first partition is associated with a first
5 resource and a second partition is associated with a second resource;
6 allocating the first partition to a single resource pool, so that only
7 processes associated with the single resource pool can access the first partition;
8 and
9 allocating the second partition to multiple resource pools so that processes
10 associated with the multiple resource pools can share the second partition.

1 3 (Canceled).

1 4. (Original) The method of claim 1, wherein establishing the first
2 resource pool involves selecting a file containing a representation of the first
3 resource pool from a plurality of possible files.

1 5 (Canceled).

1 6. (Previously presented) The method of claim 1, wherein storing the
2 representation of the resource allocation involves storing a representation of each
3 of the one or more resource pools along with associated resources.

1 7. (Previously presented) The method of claim 1, wherein storing the
2 representation of the resource allocation involves storing an Extensible Markup
3 Language (XML) representation of the resource allocation.

1 8. (Original) The method of claim 1,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 9 (Canceled).

1 10. (Original) The method of claim 1, further comprising dynamically
2 adjusting the resource allocation during system execution.

1 11. (Original) The method of claim 1, wherein the plurality of different
2 computer system resources can include:
3 central processing units;
4 semiconductor memory;
5 swap space; and
6 networking resources.

1 12. (Currently amended) A computer-readable storage medium storing
2 instructions that are executed by a computer to cause the computer to perform a
3 method for allocating computer system resources between concurrently executing
4 workloads, the method comprising:
5 establishing a first resource pool that specifies requirements for each of a
6 plurality of different computer system resources, wherein the plurality of different
7 | computer system resources are components of a single computer system, wherein

8 | the computer system resources include central processing units and at least one of
9 | memory, swap space, network interfaces, and scheduling classes, and wherein
10 | establishing the first resource pool involves establishing minimum size and
11 | maximum size requirements for a given resource that can be assigned to the first
12 | resource pool;
13 | allocating the plurality of different computer system resources to one or
14 | more resource pools, including the first resource pool, to create a resource
15 | allocation, wherein requirements of the first resource pool are satisfied, wherein
16 | prior to allocating the plurality of different computer system resources, the method
17 | further comprises:
18 | verifying that collective requirements of the one or more
19 | resource pools can be satisfied, and
20 | if the collective requirements cannot be satisfied, signaling
21 | an error condition; and
22 | wherein resources allocated to the first resource pool can change over
23 | time;
24 | binding a first process to the first resource pool, so that the first process
25 | has access to the plurality of different computer system resources allocated to the
26 | first resource pool; and
27 | storing a representation of the resource allocation to non-volatile storage
28 | so that the resource allocation can be reused after a machine failure.

1 13. (Original) The computer-readable storage medium of claim 12,
2 wherein allocating the plurality of different computer system resources to one or
3 more resource pools involves:
4 partitioning each of the plurality of different computer system resources
5 into one or more partitions, wherein a first partition is associated with a first
6 resource and a second partition is associated with a second resource;

7 allocating the first partition to a single resource pool, so that only
8 processes associated with the single resource pool can access the first partition;
9 and
10 allocating the second partition to multiple resource pools so that processes
11 associated with the multiple resource pools can share the second partition.

1 14 (Canceled).

1 15. (Original) The computer-readable storage medium of claim 12,
2 wherein establishing the first resource pool involves selecting a file containing a
3 representation of the first resource pool from a plurality of possible files.

1 16 (Canceled).

1 17. (Previously presented) The computer-readable storage medium of
2 claim 12, wherein storing the representation of the resource allocation involves
3 storing a representation of each of the one or more resource pools along with
4 associated resources.

1 18. (Previously presented) The computer-readable storage medium of
2 claim 12, wherein storing the representation of the resource allocation involves
3 storing an Extensible Markup Language (XML) representation of the resource
4 allocation.

1 19. (Original) The computer-readable storage medium of claim 12,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 20 (Canceled).

1 21. (Original) The computer-readable storage medium of claim 12,
2 wherein the method further comprises dynamically adjusting the resource
3 allocation during system execution.

1 22. (Original) The computer-readable storage medium of claim 12,
2 wherein the plurality of different computer system resources can include:
3 central processing units;
4 semiconductor memory;
5 swap space; and
6 networking resources.

1 23. (Currently amended) An apparatus that allocates computer system
2 resources between concurrently executing workloads, comprising:
3 an establishment mechanism that is configured to establish a first resource
4 pool that specifies requirements for each of a plurality of different computer
5 system resources, wherein the plurality of different computer system resources are
6 components of a single computer system, wherein the computer system resources
7 include central processing units and at least one of memory, swap space, network
8 interfaces, and scheduling classes, and wherein the establishment mechanism is
9 configured to establish minimum size and maximum size requirements for a given
10 resource that can be assigned to the first resource pool;
11 an allocation mechanism that is configured to allocate the plurality of
12 different computer system resources to one or more resource pools, including the
13 first resource pool, to create a resource allocation, wherein requirements of the
14 first resource pool are satisfied, and wherein resources allocated to the first
15 resource pool can change over time;

16 a verification mechanism that is configured to verify that collective
17 requirements of the one or more resource pools can be satisfied;
18 wherein if the collective requirements cannot be satisfied, the verification
19 mechanism is configured to signal an error condition;
20 a binding mechanism that is configured to bind a first process to the first
21 resource pool, so that the first process has access to the plurality of different
22 computer system resources allocated to the first resource pool; and
23 an archiving mechanism that is configured to store a representation of the
24 resource allocation to non-volatile storage so that the resource allocation can be
25 reused after a machine failure.

1 24. (Original) The apparatus of claim 23, wherein the allocation
2 mechanism is configured to:
3 partition each of the plurality of different computer system resources into
4 one or more partitions, wherein a first partition is associated with a first resource
5 and a second partition is associated with a second resource;
6 allocate the first partition to a single resource pool, so that only processes
7 associated with the single resource pool can access the first partition; and to
8 allocate the second partition to multiple resource pools so that processes
9 associated with the multiple resource pools can share the second partition.

1 25 (Canceled).

1 26. (Original) The apparatus of claim 23, wherein the establishment
2 mechanism is configured to select a file containing a representation of the first
3 resource pool from a plurality of possible files.

1 27 (Canceled).

1 28. (Previously presented) The apparatus of claim 23, wherein the
2 archiving mechanism is configured to store a representation of each of the one or
3 more resource pools along with associated resources.

1 29. (Previously presented) The apparatus of claim 23, wherein the
2 archiving mechanism is configured to store an Extensible Markup Language
3 (XML) representation of the resource allocation.

1 30. (Original) The apparatus of claim 23,
2 wherein the first resource pool is associated with a first project; and
3 wherein the first process is one of a plurality of processes associated with
4 the first project.

1 31 (Canceled).

1 32. (Original) The apparatus of claim 23, further comprising an adjustment
2 mechanism that is configured to dynamically adjust the resource allocation during
3 system execution.

1 33. (Original) The apparatus of claim 23, wherein the plurality of different
2 computer system resources can include:
3 central processing units;
4 semiconductor memory;
5 swap space; and
6 networking resources.